

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

- 1           1.       (Currently amended) A method for generating spatialized audio  
2       from non-three-dimensionally aware applications, comprising:  
3           intercepting parameters associated with audio use from an application,  
4       wherein the application does not include support for three-dimensional sound;  
5           using the intercepted parameters to obtain location information of a  
6       display window associated with the application within a three-dimensional  
7       display;  
8           calculating an audio source location for the audio; and  
9           positioning the audio at the audio source location in a three-dimensional  
10       sound space, wherein the audio source location is associated with a location of the  
11       display window in the three-dimensional display.
- 1           2.       (Original) The method of claim 1, wherein intercepting  
2       information about audio use involves intercepting an audio stream from the  
3       application.
- 1           3.       (Original) The method of claim 1, wherein intercepting  
2       information about audio use involves intercepting parameters associated with an  
3       audio stream from the application.

1           4.       (Original) The method of claim 1, wherein obtaining location  
2 information of the display window associated with the application involves  
3 determining a set of coordinates on the three-dimensional display where the  
4 display window is located.

1           5.       (Original) The method of claim 1, wherein calculating the audio  
2 source location involves using the location of the display window to calculate  
3 coordinates for the audio source location so that audio from the audio source  
4 location appears to originate at the location of the display window.

1           6.       (Original) The method of claim 1, wherein intercepting  
2 information about audio use involves inserting wrapper code around an audio  
3 application programming interface (API) to intercept calls to the audio API.

1           7.       (Original) The method of claim 6, wherein the audio API routes  
2 intercepted audio information to a three-dimensional window manager.

1           8.       (Original) The method of claim 7, wherein the three-dimensional  
2 window manager manipulates the audio information to position an apparent audio  
3 location prior to sending the audio information to code underlying the audio API.

1           9.       (Original) The method of claim 1, further comprising reducing  
2 audio volume of other applications when a given application is issuing a request  
3 for a warning tone, wherein reducing audio volume of other applications causes  
4 the warning tone from the given application to be predominant.

1           10.      (Original) The method of claim 1, wherein when a given  
2 application is issuing a request for user attention or the three-dimensional window

3 manager decides to get the user's attention to a certain application running in the  
4 three-dimensional window, the method further comprises applying spatial audio  
5 effects to the audio that the application is generating, wherein the spatial effects  
6 include panning the audio source location in the three-dimensional space left and  
7 right repeatedly and rapidly.

1 11. (Currently amended) A computer-readable storage medium storing  
2 instructions that when executed by a computer cause the computer to perform a  
3 method for generating spatialized audio from non-three-dimensionally aware  
4 applications, the method comprising:  
5 intercepting information about audio use from an application, wherein the  
6 application does not include support for three-dimensional sound;  
7 using the intercepted parameters to obtain location information of a  
8 display window associated with the application within a three-dimensional  
9 display;  
10 calculating an audio source location for the audio; and  
11 positioning the audio at the audio source location in a three-dimensional  
12 sound space, wherein the audio source location is associated with a location of the  
13 display window in the three-dimensional display.

1 12. (Original) The computer-readable storage medium of claim 11,  
2 wherein intercepting information about audio use involves intercepting an audio  
3 stream from the application.

1 13. (Original) The computer-readable storage medium of claim 11,  
2 wherein intercepting parameters associated with audio use involves intercepting  
3 information about an audio stream from the application.

1           14.     (Original) The computer-readable storage medium of claim 11,  
2 wherein obtaining location information of the display window associated with the  
3 application involves determining a set of coordinates on the three-dimensional  
4 display where the display window is located.

1           15.     (Original) The computer-readable storage medium of claim 11,  
2 wherein calculating the audio source location involves using the location of the  
3 display window to calculate coordinates for the audio source location so that  
4 audio from the audio source location appears to originate at the location of the  
5 display window.

1           16.     (Original) The computer-readable storage medium of claim 11,  
2 wherein intercepting information about audio use involves inserting wrapper code  
3 around an audio application programming interface (API) to intercept calls to the  
4 audio API.

1           17.     (Original) The computer-readable storage medium of claim 16,  
2 wherein the audio API routes intercepted audio information to a three-dimensional  
3 window manager.

1           18.     (Original) The computer-readable storage medium of claim 17,  
2 wherein the three-dimensional window manager manipulates the audio  
3 information to position an apparent audio location prior to sending the audio  
4 information to code underlying the audio API.

1           19.     (Original) The computer-readable storage medium of claim 11, the  
2 method further comprising reducing audio volume of other applications when a  
3 given application is issuing a request for a warning tone, wherein reducing audio

4 volume of other applications causes the warning tone from the given application  
5 to be predominant.

1 20. (Original) The computer-readable storage medium of claim 11,  
2 wherein when a given application is issuing a request for user attention or the  
3 three-dimensional window manager decides to get the user's attention to a certain  
4 application running in the three-dimensional window, the method further  
5 comprises applying spatial audio effects to the audio that the application is  
6 generating, wherein the spatial effects include panning the audio source location  
7 in the three-dimensional space left and right repeatedly and rapidly..

1 21. (Currently amended) An apparatus, for generating spatialized audio  
2 from non-three-dimensionally aware applications, comprising:  
3 an intercepting mechanism configured to intercept parameters associated  
4 with audio use from an application, wherein the application does not include  
5 support for three-dimensional sound;  
6 a location obtaining mechanism configured to use the intercepted  
7 parameters to obtain location information of a display window associated with the  
8 application within a three-dimensional display;  
9 a calculating mechanism configured to calculate an audio source location  
10 for the audio; and  
11 a positioning mechanism configured to position the audio at the audio  
12 source location in a three-dimensional sound space, wherein the audio source  
13 location is associated with a location of the display window in the three-  
14 dimensional display.

1           22.     (Original) The apparatus of claim 21, wherein intercepting  
2 information about audio use involves intercepting an audio stream from the  
3 application.

1           23.     (Original) The apparatus of claim 21, wherein intercepting  
2 information about audio use involves intercepting parameters associated with an  
3 audio stream from the application.

1           24.     (Original) The apparatus of claim 21, wherein obtaining location  
2 information of the display window associated with the application involves  
3 determining a set of coordinates on the three-dimensional display where the  
4 display window is located.

1           25.     (Original) The apparatus of claim 21, wherein calculating the audio  
2 source location involves using the location of the display window to calculate  
3 coordinates for the audio source location so that audio from the audio source  
4 location appears to originate at the location of the display window.

1           26.     (Original) The apparatus of claim 21, wherein intercepting  
2 information about audio use involves inserting wrapper code around an audio  
3 application programming interface (API) to intercept calls to the audio API.

1           27.     (Original) The apparatus of claim 26, wherein the audio API routes  
2 intercepted audio information to a three-dimensional window manager.

1           28.     (Original) The apparatus of claim 27, wherein the three-  
2 dimensional window manager manipulates the audio information to position an

3     apparent audio location prior to sending the audio information to code underlying  
4     the audio API.

1           29.     (Original) The apparatus of claim 21, further comprising an  
2     volume reducing mechanism configured to reduce the audio volume of other  
3     applications when a given application is issuing a request for a warning tone,  
4     wherein reducing audio volume of other applications causes the warning tone  
5     from the given application to be predominant.

1           30.     (Original) The apparatus of claim 21, wherein the positioning  
2     mechanism is further configured to apply spatial audio effects to the audio that the  
3     application is generating when a given application is issuing a request for user  
4     attention or the three-dimensional window manager decides to get the user's  
5     attention to a certain application running in the three-dimensional window,  
6     wherein the spatial effects include panning the audio source location in the three-  
7     dimensional space left and right repeatedly and rapidly.